

# SEQUENCE LISTING

<110> Washington State University Research Foundation  
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<120> MDR1 VARIANTS AND METHODS FOR THEIR USE

<130> 4630-61733

<150> US 60/261,578

<151> 2001-01-12

<150> US 60/314,829

<151> 2001-08-24

<160> 10

<170> PatentIn version 3.1

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Glu Ser Ile Thr Asn Asn Thr Gln His Phe Ile Asn His Leu Glu Glu  
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Ile Val Glu Lys Gly Asn His Asp Glu Leu Met Lys Glu Lys Gly Ile	
610 615 620	
tac ttc aaa ctt gtc aca atg cag aca aga gga aat gaa att gag tta	1983
Tyr Phe Lys Leu Val Thr Met Gln Thr Arg Gly Asn Glu Ile Glu Leu	
625 630 635	
gaa aat gcc act ggt gaa tcc aaa agt gaa agt gat gcc ttg gaa atg	2031
Glu Asn Ala Thr Gly Glu Ser Lys Ser Glu Ser Asp Ala Leu Glu Met	
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Ser Pro Lys Asp Ser Gly Ser Ser Leu Ile Lys Arg Arg Ser Thr Arg	
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Arg Ser Ile His Ala Pro Gln Gly Gln Asp Arg Lys Leu Gly Thr Lys	
675 680 685	
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Glu Asp Leu Asn Glu Asn Val Pro Ser Val Ser Phe Trp Arg Ile Leu	
690 695 700	
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Lys Leu Asn Ser Thr Glu Trp Pro Tyr Phe Val Val Gly Ile Phe Cys	
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Ala Ile Ile Asn Gly Gly Leu Gln Pro Ala Phe Ser Ile Ile Phe Ser	
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Arg Ile Ile Gly Ile Phe Thr Arg Asp Glu Asp Pro Glu Thr Lys Arg	
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Gln Asn Ser Asn Met Phe Ser Val Leu Phe Leu Val Leu Gly Ile Ile	
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Glu Ile Leu Thr Lys Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu	
785 790 795	
aga cag gat gtc agc tgg ttt gat gac cct aaa aac acc act gga gca	2511
Arg Gln Asp Val Ser Trp Phe Asp Asp Pro Lys Asn Thr Thr Gly Ala	
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ttg aca acc agg ctt gcc aat gat gcg gct caa gtt aaa ggg gct ata	2559
Leu Thr Thr Arg Leu Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile	
815 820 825 830	
ggg tcc agg ctt gct gtc att acc cag aat ata gca aat ctt ggg aca	2607
Gly Ser Arg Leu Ala Val Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr	

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Gly Ile Ile Ile Ser Leu Ile Tyr	Gly Trp Gln Leu Thr Leu Leu Leu		
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tta gca att gta ccc atc att gca	ata gca gga gtt gtt gaa atg aaa		2703
Leu Ala Ile Val Pro Ile Ile Ala	Ile Ala Gly Val Val Glu Met Lys		
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Gly Lys Ile Ala Thr Glu Ala Ile	Glu Asn Phe Arg Thr Val Val Ser		
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Leu Thr Arg Glu Gln Lys Phe Glu	Tyr Met Tyr Ala Gln Ser Leu Gln		
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Val Pro Tyr Arg Asn Ser Leu Arg	Lys Ala His Ile Phe Gly Val Ser		
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Phe Ser Ile Thr Gln Ala Met Met	Tyr Phe Ser Tyr Ala Gly Cys Phe		
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cgg ttt ggt gcc tac ttg gtg gca	aat gag ttc atg aac ttt cag gat		2991
Arg Phe Gly Ala Tyr Leu Val Ala	Asn Glu Phe Met Asn Phe Gln Asp		
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gtt ctt ttg gta ttc tca gct att	gtc ttt ggt gcc atg gca gtg ggg		3039
Val Leu Leu Val Phe Ser Ala Ile	Val Phe Gly Ala Met Ala Val Gly		
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Gln Val Ser Ser Phe Ala Pro Asp	Tyr Ala Lys Ala Lys Val Ser Ala		
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gcc cac gtc atc atg atc att gaa	aaa agc cct ctg att gac agc		3132
Ala His Val Ile Met Ile Ile Glu	Lys Ser Pro Leu Ile Asp Ser		
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Tyr Ser Pro His Gly Leu Lys Pro	Asn Thr Leu Glu Gly Asn Val		
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aca ttt aat gag gtc gtg ttc aac	tat ccc act cga cca gac atc		3222
Thr Phe Asn Glu Val Val Phe Asn	Tyr Pro Thr Arg Pro Asp Ile		
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ccc gtg ctc cag ggg ctg agc ctc	gag gtg aag aag ggc cag acg		3267
Pro Val Leu Gln Gly Leu Ser Leu	Glu Val Lys Lys Gly Gln Thr		
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ctg gcc ctc gta ggt agc agt ggc	tgt ggg aag agc aca gtt gtt		3312
Leu Ala Leu Val Gly Ser Ser Gly	Cys Gly Lys Ser Thr Val Val		
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Tyr Met Leu Val Gly Thr Met Ala Ala Ile Ile His Gly Ala Ala Leu  
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Pro Leu Met Met Leu Val Phe Gly Asn Met Thr Asp Ser Phe Ala Asn  
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Ala Gly Ile Ser Arg Asn Lys Thr Phe Pro Val Ile Ile Asn Glu Ser  
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Ile Thr Asn Asn Thr Gln His Phe Ile Asn His Leu Glu Glu Glu Met  
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Thr Thr Tyr Ala Tyr Tyr Tyr Ser Gly Ile Gly Ala Gly Val Leu Val  
 115 120 125

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Ile Leu Lys Ile Arg Lys Gln Phe Phe His Ala Ile Met Arg Gln Glu  
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Thr Asp Asp Val Ser Lys Ile Asn Glu Gly Ile Gly Asp Lys Val Gly  
180 185 190

Met Phe Phe Gln Ser Ile Ala Thr Phe Phe Thr Gly Phe Ile Val Gly  
195 200 205

Phe Thr Pro Gly Trp Lys Leu Thr Leu Val Ile Leu Ala Ile Ser Pro  
210 215 220

Val Leu Gly Leu Ser Ala Ala Ile Trp Ala Lys Ile Leu Ser Ser Phe  
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Thr Asp Lys Glu Leu Leu Ala Tyr Ala Lys Ala Gly Ala Val Ala Glu  
245 250 255

Glu Val Leu Ala Ala Ile Arg Thr Val Ile Ala Phe Gly Gly Gln Lys  
260 265 270

Lys Glu Leu Glu Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys Arg Ile  
275 280 285

Gly Ile Lys Lys Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala Ala Phe  
290 295 300

Leu Leu Ile Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Thr Ser  
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Leu Val Leu Ser Ser Glu Tyr Thr Ile Gly Gln Val Leu Thr Val Phe  
325 330 335

Phe Ser Val Leu Ile Gly Ala Phe Ser Ile Gly Gln Ala Ser Pro Ser  
340 345 350

Ile Glu Ala Phe Ala Asn Ala Arg Gly Ala Ala Tyr Glu Ile Phe Lys  
355 360 365

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Ser Tyr Pro Ser Arg Lys Glu Val Lys Ile Leu Lys Gly Leu Asn Leu  
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Ser	Asn	Met	Phe	Ser	Val	Leu	Phe	Leu	Val	Leu	Gly	Ile	Ile	Ser	Phe
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Asp	Val	Ser	Trp	Phe	Asp	Asp	Pro	Lys	Asn	Thr	Thr	Gly	Ala	Leu	Thr
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Arg Glu Gln Lys Phe Glu Tyr Met Tyr Ala Gln Ser Leu Gln Val Pro  
915 920 925

Tyr Arg Asn Ser Leu Arg Lys Ala His Ile Phe Gly Val Ser Phe Ser  
930 935 940

Ile Thr Gln Ala Met Met Tyr Phe Ser Tyr Ala Gly Cys Phe Arg Phe  
945 950 955 960

Gly Ala Tyr Leu Val Ala Asn Glu Phe Met Asn Phe Gln Asp Val Leu  
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Leu Val Phe Ser Ala Ile Val Phe Gly Ala Met Ala Val Gly Gln Val  
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Ser Ser Phe Ala Pro Asp Tyr Ala Lys Ala Lys Val Ser Ala Ala His  
995 1000 1005

Val Ile Met Ile Ile Glu Lys Ser Pro Leu Ile Asp Ser Tyr Ser  
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Pro His Gly Leu Lys Pro Asn Thr Leu Glu Gly Asn Val Thr Phe  
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Leu Gly Ile Val Ser Gln Glu Pro Ile Leu Phe Asp Cys Ser Ile  
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